

What is claimed is:

- 1           1.       A machine-implemented method, comprising:  
2               establishing, within a global operating system environment provided by an  
3               operating system, a particular non-global partition which serves to isolate processes  
4               running within the particular non-global partition from other non-global partitions within  
5               the global operating system environment;  
6               associating the particular non-global partition with a first resource pool  
7               comprising one or more resources; and  
8               ensuring that processes running within the particular non-global partition are  
9               allowed to utilize only the resources in the first resource pool.
  
- 1           2.       The method of claim 1, wherein the first resource pool comprises one or  
2               more processors.
  
- 1           3.       The method of claim 2, wherein ensuring comprises:  
2               assigning work from processes running within the particular non-global partition  
3               to only the one or more processors in the first resource pool.
  
- 1           4.       The method of claim 1, wherein the first resource pool comprises an  
2               indication of a maximum amount of memory that can be consumed.
  
- 1           5.       The method of claim 4, wherein ensuring comprises:

2 receiving, from a particular process running within the particular non-global  
3 partition, a memory allocation request;  
4 determining whether granting the memory allocation request would cause the  
5 maximum amount of memory that can be consumed to be exceeded; and  
6 in response to a determination that granting the memory allocation request would  
7 not cause the maximum amount of memory that can be consumed to be exceeded,  
8 granting the memory allocation request.

1 6. The method of claim 5, wherein ensuring further comprises:  
2 in response to a determination that granting the memory allocation request would  
3 cause the maximum amount of memory that can be consumed to be exceeded,  
4 deallocating sufficient memory from one or more other processes to enable the memory  
5 allocation request to be granted without causing the maximum amount of memory that  
6 can be consumed to be exceeded; and  
7 granting the memory allocation request.

1 7. The method of claim 1, wherein the operating system is executed on a  
2 computer system, and wherein the resources in the first resource pool are just a subset of  
3 a total set of resources available on the computer system.

1 8. The method of claim 1, wherein ensuring comprises:  
2 associating each process running within the particular non-global partition with  
3 the first resource pool.

1           9.     The method of claim 8, further comprising:  
2           receiving an indication that the particular non-global partition is to be associated  
3     with a second resource pool instead of the first resource pool, wherein the second  
4     resource pool is different from the first resource pool, and wherein the second resource  
5     pool comprises one or more resources;  
6           associating the particular non-global partition with the second resource pool  
7     instead of the first resource pool; and  
8           ensuring that processes running within the particular non-global partition are  
9     allowed to utilize only the resources in the second resource pool.

1           10.    The method of claim 9, wherein ensuring that processes running within the  
2     particular non-global partition are allowed to utilize only the resources in the second  
3     resource pool comprises:  
4           associating each process running within the particular non-global partition with  
5     the second resource pool instead of the first resource pool.

1           11.    The method of claim 1, wherein the operating system executes on a  
2     computer system, and wherein the method further comprises:  
3           receiving, from a particular process running within the particular non-global  
4     partition, a request for information pertaining to all resources; and

5 providing, to the particular process, information pertaining only to the one or  
6 more resources in the first resource pool, even though the computer system comprises  
7 other resources.

1 12. A machine-readable medium, comprising:  
2 instructions for causing one or more processors to establish, within a global  
3 operating system environment provided by an operating system, a particular non-global  
4 partition which serves to isolate processes running within the particular non-global  
5 partition from other non-global partitions within the global operating system  
6 environment;  
7 instructions for causing one or more processors to associate the particular non-  
8 global partition with a first resource pool comprising one or more resources; and  
9 instructions for causing one or more processors to ensure that processes running  
10 within the particular non-global partition are allowed to utilize only the resources in the  
11 first resource pool.

1 13. The machine-readable medium of claim 12, wherein the first resource pool  
2 comprises one or more processors.

1 14. The machine-readable medium of claim 13, wherein the instructions for  
2 causing one or more processors to ensure comprises:

3 instructions for causing one or more processors to assign work from processes  
4 running within the particular non-global partition to only the one or more processors in  
5 the first resource pool.

1 15. The machine-readable medium of claim 12, wherein the first resource pool  
2 comprises an indication of a maximum amount of memory that can be consumed.

1 16. The machine-readable medium of claim 15, wherein the instructions for  
2 causing one or more processors to ensure comprises:  
3 instructions for causing one or more processors to receive, from a particular  
4 process running within the particular non-global partition, a memory allocation request;  
5 instructions for causing one or more processors to determine whether granting the  
6 memory allocation request would cause the maximum amount of memory that can be  
7 consumed to be exceeded; and  
8 instructions for causing one or more processors to grant, in response to a  
9 determination that granting the memory allocation request would not cause the maximum  
10 amount of memory that can be consumed to be exceeded, the memory allocation request.

1 17. The machine-readable medium of claim 16, wherein the instructions for  
2 causing one or more processors to ensure further comprises:  
3 instructions for causing one or more processors to deallocate, in response to a  
4 determination that granting the memory allocation request would cause the maximum  
5 amount of memory that can be consumed to be exceeded, sufficient memory from one or

6 more other processes to enable the memory allocation request to be granted without  
7 causing the maximum amount of memory that can be consumed to be exceeded; and  
8 instructions for causing one or more processors to grant the memory allocation  
9 request.

1 18. The machine-readable medium of claim 12, wherein the operating system  
2 is executed on a computer system, and wherein the resources in the first resource pool are  
3 just a subset of a total set of resources available on the computer system.

1 19. The machine-readable medium of claim 12, wherein the instructions for  
2 causing one or more processors to ensure comprises:  
3 instructions for causing one or more processors to associate each process running  
4 within the particular non-global partition with the first resource pool.

1 20. The machine-readable medium of claim 19, further comprising:  
2 instructions for causing one or more processors to receive an indication that the  
3 particular non-global partition is to be associated with a second resource pool instead of  
4 the first resource pool, wherein the second resource pool is different from the first  
5 resource pool, and wherein the second resource pool comprises one or more resources;  
6 instructions for causing one or more processors to associate the particular non-  
7 global partition with the second resource pool instead of the first resource pool; and

8 instructions for causing one or more processors to ensure that processes running  
9 within the particular non-global partition are allowed to utilize only the resources in the  
10 second resource pool.

1 21. The machine-readable medium of claim 20, wherein the instructions for  
2 causing one or more processors to ensure that processes running within the particular  
3 non-global partition are allowed to utilize only the resources in the second resource pool  
4 comprises:  
5 instructions for causing one or more processors to associate each process running  
6 within the particular non-global partition with the second resource pool instead of the first  
7 resource pool.

1 22. The machine-readable medium of claim 12, wherein the operating system  
2 executes on a computer system, and wherein the machine-readable medium further  
3 comprises:  
4 instructions for causing one or more processors to receive, from a particular  
5 process running within the particular non-global partition, a request for information  
6 pertaining to all resources; and  
7 instructions for causing one or more processors to provide, to the particular  
8 process, information pertaining only to the one or more resources in the first resource  
9 pool, even though the computer system comprises other resources.

1 23. An apparatus, comprising:

2           a mechanism for establishing, within a global operating system environment  
3   provided by an operating system, a particular non-global partition which serves to isolate  
4   processes running within the particular non-global partition from other non-global  
5   partitions within the global operating system environment;

6           a mechanism for associating the particular non-global partition with a first  
7   resource pool comprising one or more resources; and

8           a mechanism for ensuring that processes running within the particular non-global  
9   partition are allowed to utilize only the resources in the first resource pool.

1           24.    The apparatus of claim 23, wherein the first resource pool comprises one  
2   or more processors.

1           25.    The apparatus of claim 24, wherein the mechanism for ensuring  
2   comprises:

3           a mechanism for assigning work from processes running within the particular non-  
4   global partition to only the one or more processors in the first resource pool.

1           26.    The apparatus of claim 23, wherein the first resource pool comprises an  
2   indication of a maximum amount of memory that can be consumed.

1           27.    The apparatus of claim 26, wherein the mechanism for ensuring  
2   comprises:



3           a mechanism for receiving, from a particular process running within the particular  
4 non-global partition, a memory allocation request;  
5           a mechanism for determining whether granting the memory allocation request  
6 would cause the maximum amount of memory that can be consumed to be exceeded; and  
7           a mechanism for granting, in response to a determination that granting the  
8 memory allocation request would not cause the maximum amount of memory that can be  
9 consumed to be exceeded, the memory allocation request.

1           28.     The apparatus of claim 27, wherein the mechanism for ensuring further  
2 comprises:

3           a mechanism for deallocating, in response to a determination that granting the  
4 memory allocation request would cause the maximum amount of memory that can be  
5 consumed to be exceeded, sufficient memory from one or more other processes to enable  
6 the memory allocation request to be granted without causing the maximum amount of  
7 memory that can be consumed to be exceeded; and  
8           a mechanism for granting the memory allocation request.

1           29.     The apparatus of claim 23, wherein the operating system is executed on a  
2 computer system, and wherein the resources in the first resource pool are just a subset of  
3 a total set of resources available on the computer system.

1           30.     The apparatus of claim 23, wherein the mechanism for ensuring  
2 comprises:

3           a mechanism for associating each process running within the particular non-global  
4 partition with the first resource pool.

1           31.     The apparatus of claim 30, further comprising:  
2           a mechanism for receiving an indication that the particular non-global partition is  
3 to be associated with a second resource pool instead of the first resource pool, wherein  
4 the second resource pool is different from the first resource pool, and wherein the second  
5 resource pool comprises one or more resources;  
6           a mechanism for associating the particular non-global partition with the second  
7 resource pool instead of the first resource pool; and  
8           a mechanism for ensuring that processes running within the particular non-global  
9 partition are allowed to utilize only the resources in the second resource pool.

1           32.     The apparatus of claim 31, wherein the mechanism for ensuring that  
2 processes running within the particular non-global partition are allowed to utilize only the  
3 resources in the second resource pool comprises:  
4           a mechanism for associating each process running within the particular non-global  
5 partition with the second resource pool instead of the first resource pool.

1           33.     The apparatus of claim 23, wherein the operating system executes on a  
2 computer system, and wherein the apparatus further comprises:  
3           a mechanism for receiving, from a particular process running within the particular  
4 non-global partition, a request for information pertaining to all resources; and

5           a mechanism for providing, to the particular process, information pertaining only  
6   to the one or more resources in the first resource pool, even though the computer system  
7   comprises other resources.